

STRONG
FITNESS MAGAZINE

**AN 8-WEEK
PROGRAM
FOR A
FASTER
10K**

TRAINING GUIDE

**YOUR SPRING
FITNESS PLAN:
RUN, LIFT,
RECOVER,
REPEAT.**

CROSSFIT 101
WE TEACH YOU THE BASICS

+ ROLL IT RIGHT:
How to use your foam roller



**A SERIOUSLY TOUGH
30 MINUTE WORKOUT**



BCAAs – BACKED BY SCIENCE, & HIGHLY EFFECTIVE & DELICIOUS!

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ALL BCAAs ARE NOT CREATED EQUAL!

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acid (KIC) to further enhance the buffering of lactic acid (muscle toxin) and increase the levels of L-Leucine at the site of muscle. AMINOCORE contains additional highly bioavailable B-Vitamins not only enhance the anabolic environment, they help to release additional metabolic energy.

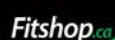
THE BOTTOM LINE!

BCAAs (Branched Chain Amino Acids - Leucine, Valine and Isoleucine) are one of the most effective supplements you can buy. BCAAs improve and maintain your muscle tone like nothing else. Having more muscle than fat creates the most ideal physical shape. A greater degree of Lean Body Mass (LBM) elevates your metabolism and in doing so can increase the rate at which you burn through calories. Finally, a truly effective BCAA supplement that mixes perfectly and tastes exceptionally good.

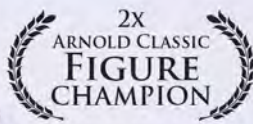


AMINOCORE comes in 4 Flavors & Unflavored!

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0g
Sugar

8g
BCAAs

0g
Carbs



in every issue

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COVER MODEL
ANNETTE MILBERS

PHOTOGRAPHY
PAUL BUCETA

SHOT IN
LAS VEGAS, NV

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LIANA LOUZON, PHOTOGRAPHER

“The Keys to the Box,” pg 10

Liana was one of the first female photographers on the fitness scene. Today she shoots for brand campaigns, magazines and promotional material, and has a flair for capturing candid moments on set. For this issue, she collaborated with fitness expert Tommy Caldwell on “The Keys to the Box” and says preparing for the shoot was a process, but one that she loves. “I came on set with an open mind and welcomed collaboration from the athletes and the writer. We worked as a team with a common vision of putting together inspirational material.” As for aspiring fitness models, Liana has some sound advice based on her observations from her six years as an industry photographer: “Be authentic. Don’t try to imitate your role model or copy an image. Be true to who you are, your story, your vision and your goals.”



ASHLEIGH GASS, CCN, CNS

“Find Your Formula,” pg 24

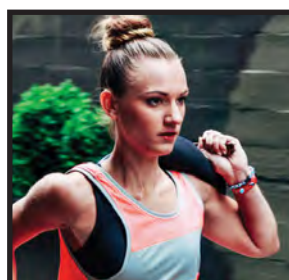
Ashleigh is truly a master at her craft. With decades of experience in athletics and training, and a Master’s degree in Human/Clinical Nutrition, she brings hard facts to the table when talking about how to eat and fuel for optimal performance. She’s also a graduate of the National Coaching Institute, specializing in coaching athletes of all levels, from recreational to elite status.



TOMMY CALDWELL, FOUNDER, HYBRID FITNESS CENTRES

“The Keys to the Box,” pg 10

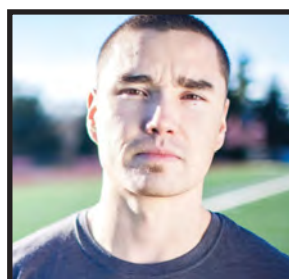
Former pro-kickboxer and rugby athlete-turned-coach, Tommy holds qualifications in strength and conditioning, sports psychology, and nutrition. He is also the creator of the *Journal of Human Performance*.



KELLY TURNER, HEALTH & FITNESS WRITER

“Fit in 30,” pg 18

Ten years ago, Kelly got into the fitness industry as a personal trainer because she wanted to help people transform their bodies and their lives. Today she’s a successful trainer in Seattle, WA, with her work appearing online and in publications across the country.



JON-ERIK KAWAMOTO, MSC, CSCS, CSEP-CEP

“Pick up the Pace,” pg 16

Founder of JKConditioning, Jon-Erik has been a go-to expert for fitness magazines for years. A former competitive runner for almost a decade, he now trains his clients to help them achieve marathon success.



DAVE LAUS, PHOTOGRAPHER

“Fit in 30,” pg 18

Photographer Dave Laus burst on to the fitness scene just a couple of years ago, but he’s already making waves. His work has been seen all over the fitness industry from fitness magazine covers to training features and everything in between.

MAKE YOUR MOVE

THOSE OF US WHO TRAIN UNDER OLD SCHOOL METHODS OF BODYBUILDING PROBABLY WON'T ADMIT IT, BUT I WILL: WE'RE INTRIGUED BY CROSSFIT.

Even for the most stubborn advocates of Chest Day Monday (let's call this group "Team Isolation") it's hard to deny the allure of CrossFit's gritty training spaces, impeccably fit bodies—even those powerful Reebok ads whet our competitive appetites. Let's not forget Team CrossFit's strongest recruiting tool: it's legions of followers, which have created one of the most united fitness communities since yoga went mainstream.

Still, many curious members of Team Isolation remain unconverted, myself included. So what's holding us back from switching teams, or at least, trying out for the other side? In short: fear.

Just as much as the CrossFit movement has been embraced by conventional fitness, it's also been stigmatized as extremely hazardous thanks to terrifying viral videos of "CrossFit Fails," and an increasing number of enthusiasts-turned-trainers watering down the credibility of the sport.

But the truth is, any sport or physical activity comes with risks, especially when done incorrectly; even jump rope poses it's threats if you don't know what you're doing. Whether you're riding a bike or squatting twice your weight, improper form will inevitably cause your workout to do more harm than good.

Getting back to CrossFit, if you desperately want to try it but a fear of getting hurt has kept you hiding in your comfort zone, you could be missing out. CrossFit's high intensity interval style of training is proven to help you torch fat faster and more efficiently than isolation training. It's also been praised for it's more "functional" approach, improving mobility, balance and flexibility.

To get you started, fitness expert and owner of Hybrid Fitness, Tommy Caldwell, has outlined a few of CrossFit's basic moves in "The Keys to the Box" on page 10, along with his tips for ensuring perfect form and execution. You can test drive these exercises in almost any space that offers barbells and see if they're for you. From there, you can work them into your current training program, or take the next step and try a beginner's class at your local CrossFit box.

The take home point, however, is to work within your capabilities—don't try to be a beast just because the woman next to you is clean and jerking a Volkswagen. If something hurts, stop doing it. If the weight is too heavy, use less. Hey, it's your body; do what moves you.



BELOW: STRONG CHIEF PHOTOGRAPHER PAUL BUCETA IN THE LAS VEGAS DESERT WITH COVER ATHLETE ANNETTE MILBERS-FLECK AND TIFFANI LEE CHASE.



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Always consult your physician before beginning any exercise program. This general information is not intended to diagnose any medical condition or to replace your healthcare professional. Consult with your healthcare professional to design an appropriate exercise prescription. If you experience any pain or difficulty with these exercises, stop and consult your healthcare provider. If you experience any symptoms of weakness, unsteadiness, light-headedness or dizziness, chest pain or pressure, nausea, or shortness of breath. Mild soreness after exercise may be experienced after beginning a new exercise. Contact your physician if the soreness does not improve after 2-3 days.

#mystrong MOMENT

Posts We Love!



pure ADRENALINE

PHOTOGRAPHY BY PAUL BUCETA



A full-page photograph of a desert landscape. In the foreground, a light-colored dirt road curves from the bottom left towards the center. The middle ground features a rocky hillside with distinct horizontal layers of reddish-brown and tan earth. In the background, a range of rugged, grey mountains rises against a clear, bright blue sky. The overall scene is arid and sunlit.

**"EVERY MOMENT
WASTED LOOKING BACK,
KEEPS US FROM
MOVING FORWARD."**

-HILLARY CLINTON

COACH LINDSAY

WRITTEN BY LINDSAY KENT, ISSA PROFESSOR, MASTER TRAINER AND OWNER OF EQUILIBRIUM BODYLAB



The Science of Fasted Cardio

What's the deal with exercise before breakfast, anyway? Learn the logic behind this fat-loss strategy—and how to do it right.

WRITTEN BY LINDSAY KENT, ISSA PROFESSOR, MASTER TRAINER AND OWNER OF EQUILIBRIUM BODYLAB | PHOTOGRAPHY BY DAVE LAUS

SO YOUR TRAINER OR COACH (or fitness friend) has suggested you try pre-breakfast cardio to help shed a few extra pounds. You may think she's gone crazy, however there's actually a method to the madness of early morning sweat sessions. The body's physiological response to food and training is an intricate science, one we can manipulate to enhance fat mobilization and get closer to our goals. But before you jump out of bed and start running sprint drills, read on. Proper execution of this strategy means understanding the science behind it.



WHAT IT IS

The body exists between two states, “postprandial” (the fed state), and “post-absorptive” (the fasted state). During the postprandial state, the body has food stores to burn, so it shuts down its fat burning mechanism and relies on energy provided from the meal. Performing fasted cardio provides a way around this problem, leaving the body primed for fat burning.

YOUR BODY AND FAT LOSS

Thanks to our physiological makeup, women and men experience fat loss and muscle gain very differently. “Stubborn” areas for women typically include the hips, thighs, butt and lower abdomen. While you know you can't spot reduce, which refers

to targeting a specific area for weight loss, research indicates that fasted cardio increases blood flow to the abdominal region, which in turn can help to slim out these areas.

Now for the heavy science: Catecholamines are chemicals that break down fat cells by attaching to fat receptors in your body. Increased bloodflow through fasted cardio can help deliver more catecholamines to those stubborn areas we talked about, and increase your chances of fat loss.

CONSIDERATIONS

This topic is often debated in the fitness industry due to potential concerns over muscle breakdown and its true fat-burning potential. Research indicates that

when implemented properly, this method does in fact alter body composition, but individual goals and health concerns, especially those that deal with blood sugar issues, should discuss this method with their doctor.

YOUR STRATEGY

First, let's be clear that fasted cardio is not a magic solution; it requires a proper nutritional strategy, along with utilizing the correct exercise intensity, in order to make significant changes. For starters, fasted cardio workouts are not endurance sessions. Keep these sessions to 45-60 minutes maximum and as soon as your session is over, make sure to have breakfast.

Keep the intensity of your cardio between 60-65 percent

of your maximum effort to avoid spiking your cortisol levels. When intensity increases above this level without food in the system, a crossover state occurs, where the body releases glucose and cortisol, undoubtedly causing muscle breakdown.

Lastly, perform fasted cardio shortly after waking. You do not want to be awake any longer than 90 minutes before eating. Ingesting a small amount of amino acids and glutamine 15-30 minutes before training can also help avoid catabolism (muscle breakdown). Try a dose of 5 g each of branched chain amino acids (BCAAs), glutamine and essential amino acids.

Yours in Fitness,

Lindsay

ALL HER EFFORTS ARE

NATURAL

SO ARE OURS.



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GLUTEN FREE. GREAT TASTE.**

ORDER A TRIAL PACK TODAY! USE PROMO CODE **STRONG** FOR 25% OFF
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THE KEYS TO THE BOX

The CrossFit craze has exposed us to some of the most explosive, powerful and grueling exercises known to man. Want in on the action? We give you the low-down on how to execute the sport's fundamental moves.

WRITTEN BY TOMMY CALDWELL, TRAINER, COACH & FOUNDER OF HYBRID FITNESS
PHOTOGRAPHY BY LIANA LOUZON

THERE'S NO DENYING THAT CROSSFIT IS THE BIGGEST MOVEMENT TO HAPPEN IN FITNESS SINCE THE 1980s.

This year alone, somewhere around 300,000 athletes worldwide competed in the CrossFit Open, an arduous test of strength and stamina, to see how they measure up.

But along with the gain of interest in the "Sport of Fitness" has come some downfalls, such as the introduction of increasingly complex exercises that may or may not be appropriate for all participants. What CrossFit excels at in getting people moving, it can lack in safety measures, focus on proper form and technique, and participants holding themselves accountable to the potentially high risk training combinations.

It's all well and good to perform exercises that make you feel like a badass, but if you don't stay within your means and use proper technique and progressions, you could end up the star of the next CrossFit Fail video on YouTube. So if you're new to CrossFit, or thinking of giving it a try, it's important that you understand the mechanics of some of the basic movements that the sport has recently popularized, to make sure you're executing them properly and safely. ►

A full-page photograph of a woman with blonde hair in a high ponytail, wearing a pink and white striped sports bra and red leggings. She is in a dynamic pose, performing a kettlebell swing. She is holding a black kettlebell with her right hand, and her left arm is extended back. She is wearing white Reebok sneakers with red accents. The background is a dark gym with various pieces of equipment visible. The floor is green.

GET A GRIP ON
CROSSFIT'S BASIC,
YET EFFECTIVE
EXERCISES.

KETTLEBELL SWING (ALL LEVELS)

One of the most fundamental and beneficial hip dominant movements you should have in your arsenal is a Kettlebell Swing. To perform it correctly, begin with a kettlebell that you can easily control. As you swing, keep in mind this is a “back and forth” motion, not an “up and down” one.

HOW TO:

Begin by gently swinging the weight back between your legs using the hinge of your hips, then use the thrust of your hips to move the weight away from the body in front of you. Aim for 4 sets of 12-16 reps.



SAFETY TIPS

- ✓ Use a weight you can control.
- ✓ Beginners should only swing the kettlebell to chest height.
- ✓ You must keep a flat back and neutral spine when loading the weight (the down position).
- ✓ The movement should be smooth and fluid.



HOLLOW ROCK (ALL LEVELS)

This exercise is less of a CrossFit movement and more of a gymnastics fundamental. It will improve core and lower back strength needed to be effective in CrossFit-style training. It may look simple, but it's harder than it seems.



HOW TO:

Begin by lying flat on the floor on your back, then reach both your arms overhead and lift your heels off of the ground with pointed toes. Once this position is established, begin

rocking back and forth aiming to get your shoulder blades off of the floor, and then your hips off of the floor in a teeter-totter motion. Aim for 4-6 set of 30 reps (rocks).

SAFETY TIP ✓

The Hollow Rock is an extremely safe exercise, and is difficult to injure yourself. Just keep your core braced and be as stiff as you can during the movement.



A



B

BURPEE TO BOX JUMP

(INTERMEDIATE)

The Burpee to Box Jump is a torturous full-body conditioning tool that requires coordination and resilience. The key to ensuring this move is both safe and effective is to keep the box height low. If when you land on the box you are in a full squat position, the box is too high. You should be able to comfortably land with soft knees (think a 120 degree angle) and hit your box height with ease.

HOW TO:

Standing in front of the box at least a foot away, perform a burpee by bringing your hands to the floor, jumping your feet straight behind you (A), then jumping them back up to your hands (B). As you raise your body up, use your arms for momentum and jump onto the box (C). Step or hop down and repeat. Aim for 4-6 sets of 6-10 reps. ▶



IF YOU ARE A BEGINNER OR FATIGUED, COMPLETE THE BURPEE HOWEVER YOU CAN. THIS MEANS THAT YOU CAN WALK YOURSELF TO THE FLOOR AND WALK YOURSELF BACK TO YOUR FEET IF NECESSARY.



C

SAFETY TIPS

- ✓ Perform burpees however you are capable.
- ✓ Start with a very low box height.
- ✓ Never jump to a height that requires you to land in a deep squat position.



KETTLEBELL SNATCH

(INTERMEDIATE/ADVANCED)

The Kettlebell Snatch is a more advanced movement requiring a high level of skill and ability, but an excellent strength and power builder for those who can perform it safely.

HOW TO:

Begin by holding the kettlebell in one hand. Hinge at the hips and drive the weight down between your legs, just like with the standard swing exercise (A). Next, in a smooth and controlled motion, extend the knees and the hips while pulling the kettlebell straight up your torso, as close to your body as possible. Accelerate the kettlebell overhead, softening the knees to get underneath the weight, then “punch” it upwards, catching it in the overhead position with a stiff wrist (B). Aim for 4-5 sets of 8-12 reps.

SAFETY TIPS

- ✓ Do not attempt this exercise unless you are strong and confident with kettlebell work and overhead exercises.
- ✓ Keep a strong core and neutral spine in the bottom hinged position.
- ✓ If you are finding that the weight is coming back down and slamming into your forearm at the top of the movement, use less weight and practice until you improve your timing of the transition. The weight should be dropping back onto your arm smoothly as you extend into the movement.



BARBELL THRUSTER

(INTERMEDIATE)

One of the most effective full-body conditioning tools available, the thruster is complex in its execution. Before you begin: If you cannot properly rack the barbell (elbows pointed forward, weight on the chest and shoulders) than you should use a set of dumbbells or another weight that you can easily control.

HOW TO:

Set your feet shoulder-width apart and begin by performing a front squat. Lower as deeply as you can without compromising the low back (keep a neutral, slightly arched lumbar curve) (A).

Once you are at the lowest point of your squat, accelerate back to standing and jump the weight off of your chest using the momentum to press it overhead (B). Aim for 3-4 sets of 10-12 reps. **S**



A



B

SAFETY TIPS

- ✓ Only use a barbell if you can properly and comfortably front rack and press it overhead.
- ✓ Only squat as deep as you can, keeping spinal integrity.
- ✓ Stop when fatigued. Overhead work can become dangerous when you are too tired to control your weight.

PICK UP THE PACE

Get a competitive edge on the racecourse this season with our expert-created 8-week training program for your best 10K ever.

PROGRAM BY JON-ERIK KAWAMOTO, MSC, CSCS, FOUNDER OF JKCONDITIONING.COM
PHOTOGRAPHY BY PAUL BUCETA

For anyone who's into short-distance running, the thrill of the 10K race can be addictive.

There's a certain satisfaction that comes with standing among the swarm of runners packed at the starting line, hearing the cheers from the crowds as you pass by and knowing that after approximately 60 minutes, you'll be wearing your medal and snacking on a post-race banana while the marathoners have another brutal three hours to go.

So if the 10K is your comfort zone, why not make this race season your best ever? This 8-week training program created by seasoned road racer and conditioning coach Jon-Erik Kawamoto, is designed to help you find your stride at a faster pace. Print out the chart, commit to the training, and you'll have no problem setting new PRs on the course this season. And who knows? Maybe you'll even tear some tape at the finish line.

DON'T FORGET ABOUT PROPER FOOTWEAR!

Check out our spring sneaker guide in the May/June issue of STRONG Fitness Magazine.

Get with the Program

• **Follow this program** in conjunction with a balanced diet and regular strength training workouts.

• **On strength training days**, use heavier weight and keep the rep range around 5 or less, to elicit strength gains.

• **Do not train on rest days.** Your body will need the time to repair.

• **If you are not already** comfortable running 10K,

follow this program twice, for a total of 16 weeks. Decrease the mileage by half the first time through.

• **Do not go over 70-75%** of your max heart rate.

• **Using a heart rate** monitor will help you find your optimal pace. ✓

JON-ERIK LIKES THE FITBIT SURGE (\$300; fitbit.com) and the

TOM TOM RUNNER GPS WATCH (\$130; tomtom.com)

Day	TYPE OF RUN	Pace	Week 1 (build)	Week 2 (build)	Week 3 (build)	Week 4 (down week)	Week 5 (build)	Week 6 (build)	Week 7 (build)	Week 8 (build)
MONDAY	Easy run	50-55% max heart rate	4-5 miles & strength training	4-5 miles & strength training	4-5 miles & strength training	3-4 miles & strength training	4-5 miles & strength training	4-5 miles & strength training	4-5 miles	3-4 miles
TUESDAY	Tempo endurance intervals	Variable (5km-10km race pace)	5-6x ½ mile @ 5km race pace (2min rest)	3-4x 1 mile @ 10km goal race pace (2 min rest)	10x ¼ mile @ 5km race pace (90 sec rest)	5-6x ¾ mile @ 10km goal race pace (2 min rest)	10x ¼ mile @ 5km race pace (90 sec rest)	3-4x 1 mile @ 10km goal race pace (2 min rest)	2-3x 1½ mile @ 10km goal race pace (3 min rest)	6-8x ½ mile @ 5km race pace (jog 400m)
WEDNESDAY	Easy run	50-55% max heart rate	5-6 miles	5-6 miles	5-6 miles	5-6 miles	5-6 miles	5-6 miles	5-6 miles	5 miles
THURSDAY	Easy run	50-55% max heart rate	5 miles & core	5 miles & core	5 miles & core	5 miles & core	5 miles & core	5 miles & core	5 miles	5 miles
FRIDAY	Tempo run	70-75% max heart rate		3-4 miles			3.5-4.5 miles	4-5 miles		
	Long tempo intervals	70-75% max heart rate	2x 2 miles (2 min rest)		2x 3 miles (3 min rest)	5 miles			2x 2 miles (3 min rest)	3-5 miles
SATURDAY	N/A	N/A	Rest	Rest	Rest	Rest	Rest	Rest	Rest	Rest
SUNDAY	Long run	50-55% max heart rate	8 miles	7 miles	9 miles	7 miles	10 miles	8 miles	6-7 miles	RACE!

Need more time to prep?

REPEAT THE ENTIRE PROGRAM FOR A 16-WEEK BUILD UP TO A BETTER RACE.



fit in 30

CARDIO MEETS STRENGTH TRAINING IN THIS HIGH INTENSITY, HALF-HOUR WORKOUT.

WRITTEN BY KELLY TURNER, FITNESS EXPERT
AND FOUNDER OF SWEATYTHINGS.NET
PHOTOGRAPHY BY DAVE LAUS

MODEL: LUCY KIM HAIR & MAKEUP: TWO CHICKS & SOME LIPSTICK
SHOT ON LOCATION AT IGNITE FITNESS IN COLUMBUS, OH

YOU VALUE THE IMPORTANT THINGS IN LIFE, ESPECIALLY YOUR TIME AND YOUR HEALTH.

Thankfully, the amount of time you spend in the gym at each workout doesn't always directly correlate to the physical results you achieve. At the end of the day, results come down to intensity, so the harder you work, the shorter your sweat session needs to be.

Sure, if you have an hour and a half to kill in the gym every day, a routine of isolation training followed by steady state cardio will do you just fine. But if you want more bang for your fitness buck,

combine the two tactics and you'll conquer your goals in half the time. Instead of wasting precious time between sets, replacing rest intervals with plyometric movements will keep the intensity high and your body working.

This 30-minute circuit workout hits every major muscle group while keeping your heart rate elevated for an intense full-body blast that will build muscle and torch fat. Mix it up however you want, but alternate plyometric intervals with strength training exercises and give it all you've got. It's going to be tough, but hey, you can do anything for 30 minutes, right?

Build this workout however you want! Just pick one exercise from the plyo list, followed by a strength exercise, and continue alternating until the circuit is complete. Perform the circuit as many times as you can in 30 minutes.

STRENGTH EXERCISES

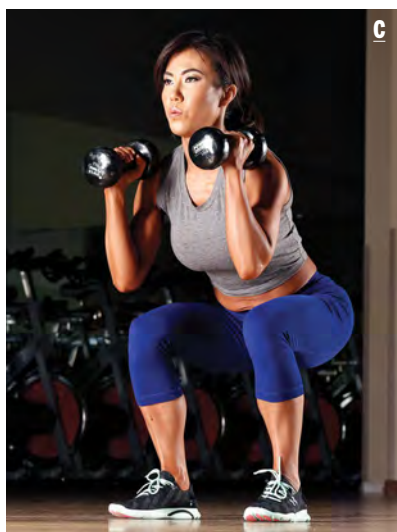
REPS

Man Maker	10
Walking Lunge w/ Biceps Curl, to Press, to Triceps Extension	10 (per leg)
Deadlift, to Clean & Press, to Overhead Squat	10

PLYO EXERCISES

REPS

Tuck Jump	10
Box Jump Burpee	10
Squat Jump to Riser	10



MAN MAKER

Set Up: Stand with feet shoulder-width apart, holding a set of light dumbbells down at your sides.

Action: In a fluid motion, place the dumbbells on the ground, then hop your feet back so you are in plank position (A). Immediately row the left dumbbell up towards your ribcage (B), lower, then repeat with the right.

Jump your feet back up to your hands and come up to a squat, bringing the dumbbells in front of your shoulders (C). Extend your hips to come up to standing, pressing the weights straight overhead (D). That's one rep. Reverse the entire motion to return to the starting position, and repeat.

Walking Lunge with Biceps Curl, to Press, to Triceps Extension

Set Up: Begin standing with a dumbbell in each hand, down at your sides. Take a large step forward and bend your knees, lowering into a lunge.

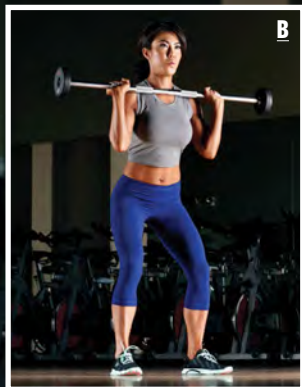
Action: Holding the lunge, bend your elbows and raise the dumbbells up toward your shoulders (A). Then, rotate your wrists so your palms are facing out, and extend your

arms, pressing the weights overhead (B). From here, bend your elbows and lower the weights behind your head (C). Extend them into an overhead triceps extension. That's one rep. Return dumbbells by your sides, and bring your back foot up to meet your front. Lunge with the opposite leg, and repeat.





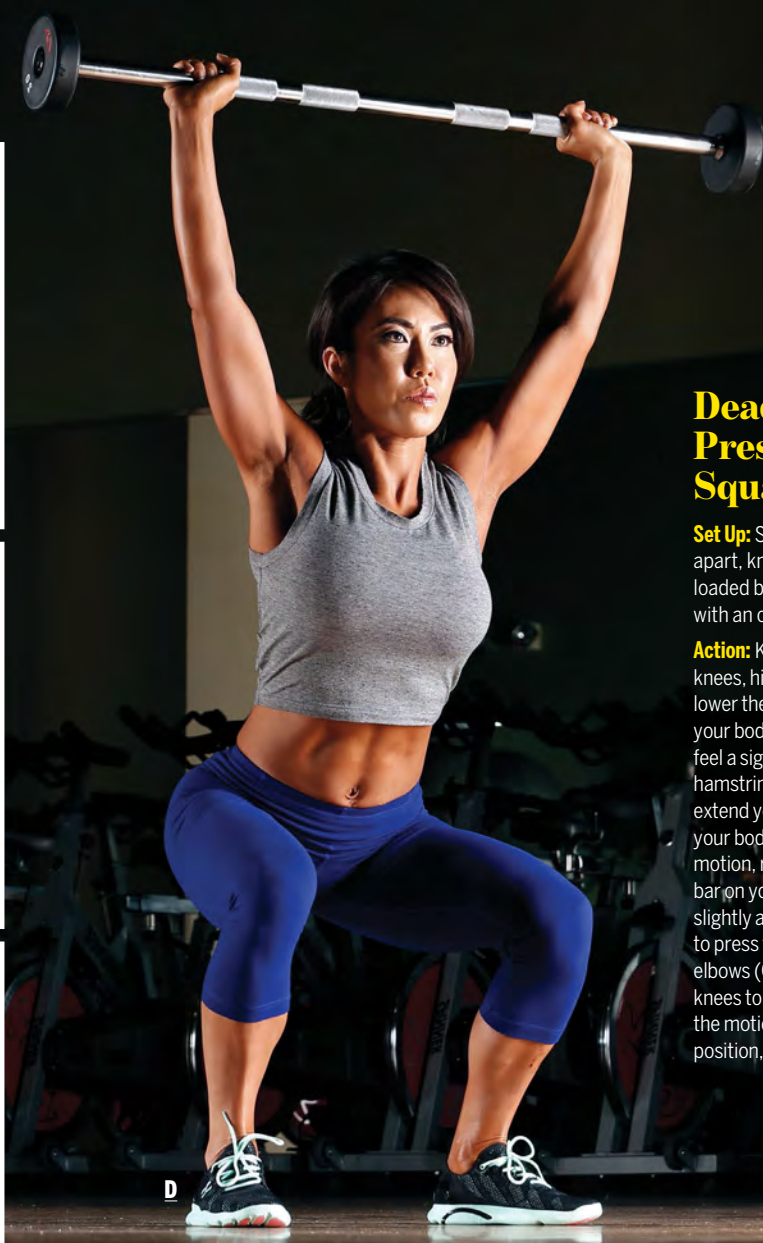
A



B



C



D

Deadlift, to Clean & Press, to Overhead Squat

Set Up: Stand with feet shoulder-width apart, knees slightly bent, holding a loaded barbell in front of your thighs with an overhand grip (A).

Action: Keeping a microbend in your knees, hinge at the waist and slowly lower the barbell down the front of your body toward the ground until you feel a significant stretch through the hamstring. From there, explosively extend your legs as you pull the bar up your body to shoulder-height. In a fluid motion, rotate your wrists to catch the bar on your upturned palms (B). Bend slightly again, then extend your arms to press the bar overhead, locking your elbows (C), and immediately bend your knees to lower into a squat (D). Reverse the motion to return to the starting position, and repeat.

Follow up this workout with a rest day: Go for a walk or try the yoga routine on page 28.

TUCK JUMP

Set Up: Stand with feet shoulder-width apart, keeping your knees soft, not locked.

Action: Explosively jump into the air and tuck your knees up towards your chest, aiming to bring your thighs at least parallel to the ground. Land with soft knees. Repeat. ▶



Burpee with Box Jump

Set Up: Start facing a box or step that is about 4 inches in front of you.

Action: Bring your hands to the ground and hop your feet back into a high plank position (A). Bend your elbows to lower your body to the ground, your stomach making contact to release any static energy. Jump your feet back up to your hands landing with bent knees (B), then explode through the legs while swinging your arms for momentum to jump up onto the box (C). Extend through the knees as you land, so you are standing up straight on the box when you land. Jump or step back onto the ground, and repeat.

If you're landing on the box in a deep squat, the box is too high.



Use a quick tempo: Land lightly on the riser, then hop down and repeat immediately.

SQUAT TO RISER JUMP

Set Up: Stand straddling a low riser, one foot on each side.

Action: Keeping your chest lifted, bend your knees and lower into a deep squat until your butt makes contact with the riser (A). Explode up through your legs, bringing your feet together to lightly land on top of the riser (B). Jump down, straddling your legs over the riser, squat back down, and repeat. **S**

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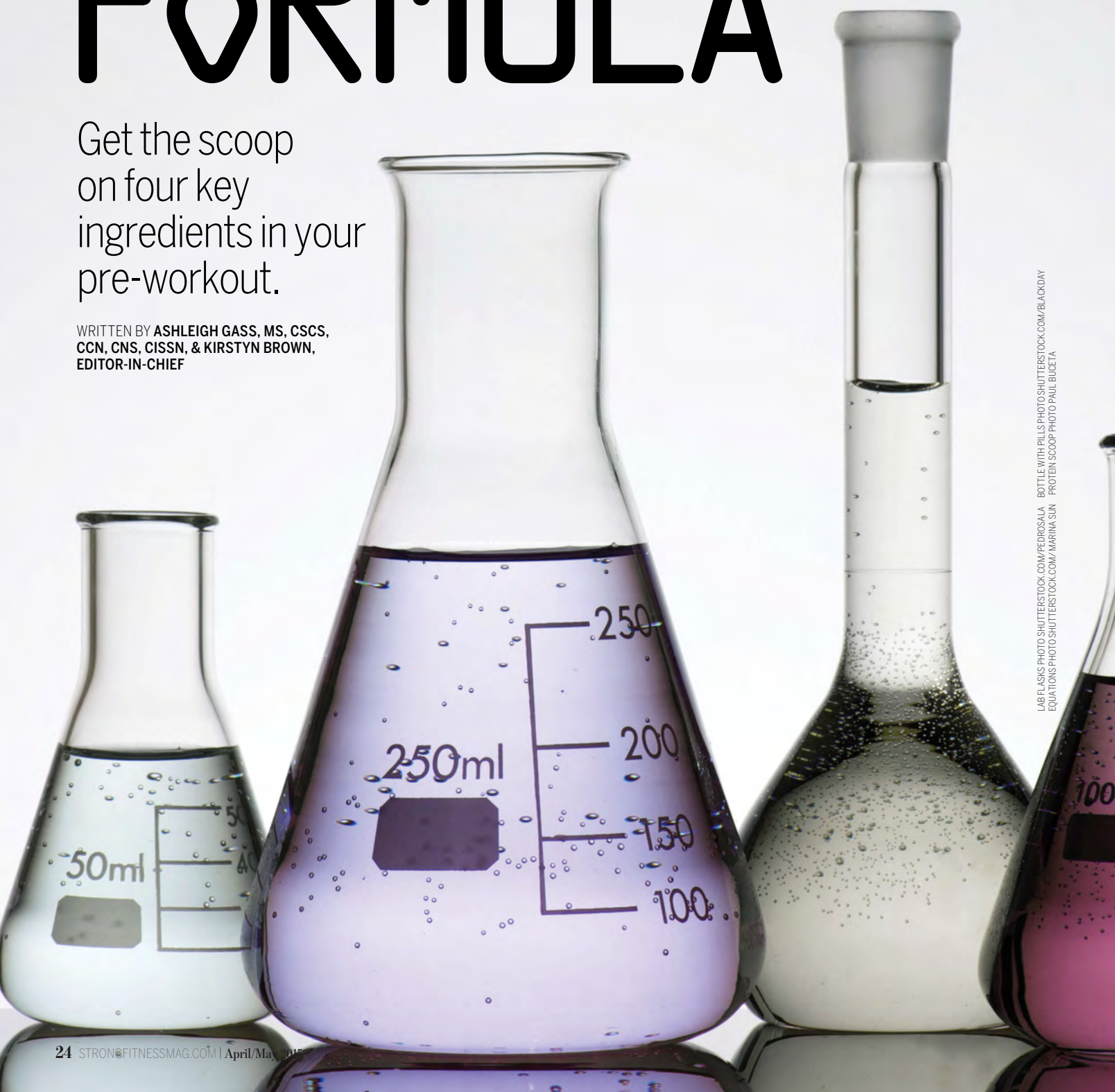
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Find Your FORMULA

Get the scoop on four key ingredients in your pre-workout.

WRITTEN BY ASHLEIGH GASS, MS, CSCS, CCN, CNS, CISSN, & KIRSTYN BROWN, EDITOR-IN-CHIEF



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HOW DO YOU GET PUMPED UP FOR A GOOD WORKOUT?

Do you throw some high-energy tracks on your playlist and blast it on your drive to the gym? Or do you watch the latest viral fitspo video circulating the internet? Or are you like a growing population of fitness buffs that turn to a pre-workout formula to help get you through the grind?

Pre-workout supplements are seemingly everywhere these days, not just in your local supplement shop but also in health food stores and even some supermarkets. These fruity flavored mixtures of amino acids, vitamins, carbohydrates, and stimulants have gained traction among athletic and bodybuilding crowds due to their purported ergogenic benefits (meaning they enhance physical performance, stamina, and recovery). But do they really work? Or are they just glorified energy drinks?

At the moment, the answer is somewhat inconclusive; scientific research on the safety and effectiveness of the formulas themselves is still a bit limited. However, many of the key ingredients found in most pre-workout drinks have been studied individually. In some cases, such as when creatine is included, research suggests they have merit, showing that they can help improve energy, alertness, strength, and power during a grueling workout. For others, the findings are less consistent or reliable. But which supps can deliver a better training session, and which might fall short of their promises?

Those profiled here are just the tip of the iceberg when it comes to common ingredients found in your favorite pre-workout formulas, but are good ones to have on your radar when you're combing the shelves for a pre-workout rush.

Caffeine

Caffeine is one of the most familiar ingredients in these formulations, likely because it's one of the most well-researched and commonly used stimulants out there. When consumed 30-60 minutes prior to exercise, it's been shown to improve performance in endurance events and time-trials, and delay the onset of fatigue during exhaustive exercise and improve cognitive function and alertness. A recent study published in the *Journal of International Society of Sports Nutrition* reported caffeine possesses glycogen-sparing effects (meaning, carbohydrates aren't used as quickly, so you'll have more energy, longer). This could mean improved endurance and may lead to positive changes in body composition.

TAKE HOME POINTS: Ingesting caffeine prior to training can allow you to train harder, for a longer period of time, and potentially stay more alert. It's effective in low to moderate doses of about 3-6 mg per kilogram of bodyweight, which for a 65 kg female (about 140 lbs) is about 195-390 mg. For an easy point of reference, an 8oz cup of coffee contains anywhere from 95-200 mg of caffeine.

Beta-Alanine

In scientific terms, this amino acid serves as a rate-limiting precursor to carnosine in skeletal muscle. In other words, the amount of beta-alanine available determines how much carnosine your body produces. Why is carnosine important? Because it serves as a muscle buffer during intense exercise, protecting the muscle pH from lowering too far, and shutting down exercise capacity. Therefore, the greater the carnosine stores you have thanks to beta-alanine supplementation, the greater the buffering capacity, helping you crank out a few extra lunges.

A study published in the *Journal of Applied Physiology* found that beta-alanine improved the rate of fatigue in sprinters, in addition to increas-



ing the number of reps to failure and overall work capacity in weight lifters. To top it off, beta-alanine has been shown to help delay the onset of neuromuscular fatigue—or a decrease of power—during sub-maximal cycling, and may increase time to exhaustion in women.

TAKE HOME POINT: Research shows beta-alanine definitely has potential in pre-workout supplementation. Common dosages range from 1-2 g daily before or during training sessions.

Creatine

Creatine comes up in all kinds of conversations around sports nutrition, and it plays specific roles in pre-workout blends. Creatine is a star player in pre-workouts due to its ability to rapidly replenish a certain type of energy store known as Adenosine Triphosphate, or ATP. This allows for quicker recovery, which means a potential increase in training volume. This is great news for any avid trainer, particularly competitive athletes who undergo increases in training volume leading up to major events. What's more, this mighty supplement may also help you get closer to your strength gains and fat loss goals; a 2012 report in the *Journal of the International Society of Sports Nutrition* stated that creatine "has been shown to increase strength and improve body composition in most individuals when combined with exercise." Combine these performance-based findings with the fact that creatine is also the most extensively studied ergogenic aids on the market, and you've got a winning ingredient. ▶

TAKE HOME POINT: If you're considering trying out a pre-workout, look for one that has creatine as a main ingredient, or try it on its own as a stand-alone supplement. It can be used in doses of 2-3 g per day to slowly increase stores in muscles, or, it can be loaded at 0.3 g per kilogram of bodyweight per day for several days, followed by maintenance doses of 3-5 g per day.

Betaine

This amino acid may not have the same cachet as creatine, but is frequently found among key ingredients in pre-workout formulas. Otherwise known as Trimethylglycine, or TMG, sources have touted betaine as an amino acid capable of boosting muscle strength and power, and increasing work capacity. The research on this, unfortunately, isn't as strong as some of the other players mentioned. While one study reported significant increases in total repetitions in a 10-set bench press protocol, other studies looking at power output have found nothing of significance.

But perhaps it's worth mentioning that betaine is also known to have cardiovascular benefits, due to its ability to lower homocysteine levels, a biomarker of cardiovascular complications. At dosages as high as 3 g per day or more, betaine has been shown to be effective in reducing homocysteine concentrations. But again, from a performance standpoint, it's still difficult to determine how betaine stacks up.

TAKE HOME POINT: Currently, it seems that more performance-based research is needed to determine if betaine is a big hitter as a sports supplement. While it doesn't appear to be as beneficial for pre-workout purposes as caffeine and creatine, it also doesn't seem to pose any harmful side effects, and may even provide some benefits to your ticker.

How to Choose the Right One

1. Shop at a credible supplement/nutrition store with knowledgeable employees. Ask a clerk for some recommendations based on your goals and needs.
2. Look for high quality, effective ingredients, like the ones outlined here, and watch for fillers and weird ingredients.
3. Stick with reputable brands. If you're unsure, do some research before buying.
4. If you're still confused, make your own by blending the following ingredients:

Coffee or green tea
(150-200 mg caffeine)

1-2 g beta-alanine

2 g creatine

5 g Branched Chain Amino Acids (BCAAs)

Ice cubes

1-2 tsp honey (optional)

BUYING A
PRE-WORKOUT?
FIRST, DO
YOUR HOMEWORK.

WHO SHOULD NOT TAKE PRE-WORKOUTS

Think before you sip if any of the following describes you:

1. YOU CAN'T HANDLE CAFFEINE.

Straight up, if you're highly caffeine sensitive, pre-workout supplements containing caffeine aren't for you. Likewise, if you're currently undergoing an "adrenal reset" nutritional program, or are a highly anxious or stressed individual, the last thing your body needs are stimulants.

2. YOU'RE EXPECTING. If you're pregnant or lactating, don't take them. Period.

3. YOU HAVE A HEART CONDITION.

If you have any doubt about your cardiovascular health, get cleared by your doc before starting a supplement program.

4. YOU'RE GOING TO YOGA.

Low-intensity workouts don't require a pre-workout supplement. Same goes for short-duration workouts (like a quick get in, get out circuit). If you need a boost, try a banana or shot of espresso instead. **S**



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LONG & STRONG

When it comes to yoga, a little goes a long way. Unlock your lower body with this quick stretching routine—it will leave you feeling good from the inside out.▶

WRITTEN BY **SANDY BRAZ**, DEPUTY EDITOR
PHOTOGRAPHY BY **PAUL BUCETA**



IT'S SHORTS SEASON,

which means chances are, you're doubling up your lower body workouts to get your stems in stellar shape. And while the extra effort might have your legs looking tight and toned from the outside, you're going to need a good stretch in between all those pop squats and lunges to keep things limber on the inside.

These five yoga poses are excellent additions to your routine for improving flexibility and releasing those tight spots, particularly in your hamstrings, calves and glutes.

HOW TO:

Move slowly and deliberately through each pose. Hold each stretch for 3-5 breaths (or up to 30 seconds) for a deep release.



Try not to round your shoulders. Keep your chest lifted.

GATE W/ BLOCK

SET UP: Kneel on the floor and stretch your left leg out to the side, placing your foot on top of a yoga block. Stack your right knee under your hip so your thigh is perpen-

dicular to the floor. Keep your hips pointed forward for proper alignment.

ACTION: Inhale and raise your arms out to the sides, palms down. Lean towards your right and place your palm on the floor, contracting your right side and stretching the left. Bring your left arm overhead and reach it towards the right. Breathe, then slowly reverse the movement and repeat on the other side.



MODIFIED HERON

Set up: Sit with legs stretched out in front of you, hands at your sides. Bend your right knee and place your foot on the floor in front of your sit bone. Grasp your foot in both hands and lean back slightly, engaging your core. Inhale.

Action: Exhale and press your foot into your hands as you lift your leg, moving it away from the body to feel a good stretch in your hamstring. Draw the shoulder blades back and down and keep your chest lifted. Raise the leg to about 45 degrees or as high as feels comfortable, breathing deeply. Lower, then repeat on the other side.

REVERSE PLANK

SETUP: Sit upright with your legs straight out in front of you. Place your palms flat on the floor several inches behind you, fingers facing forward and inhale.

ACTION: Exhale and press into your feet and hands to lift your hips toward the ceiling, creating a straight line with your body. Keep your chest lifted and shoulders back. Hold, then slowly lower and repeat.

This pose also engages the core muscles.



WIDE-LEGGED FORWARD BEND

Set up: Stand with your feet wider than shoulder-width apart, placing your feet as close to the edges of the mat as possible. Raise your arms out to the sides and inhale.

Action: Exhale and bend at the hips, lowering your upper body and placing your hands directly in front of your face on the floor. Bend your elbows and point them to your knees for alignment. Press your hands into the floor for support. To modify, keep your knees slightly bent. Raise back up slowly, inhaling as you come up.



WHEEL

SETUP: Lie down and bend your knees, placing your feet firmly on the floor with your heels as close to your sit bones as possible. Press your palms flat on the floor on either side of your head, fingers pointing toward your feet, and inhale deeply.

ACTION: Exhale and press your palms and inner soles into the floor and raise your body towards the ceiling. Keep your inner thighs and inner feet parallel. Finally, lift your head off the floor. Breathe and hold, then slowly lower back down. **S**

TIP: To relieve any tension on the spine, lift your heels off the ground as shown, keeping the glutes and hamstrings relaxed. The arch will help give the quads and the front of your body a nice stretch.



WRITTEN BY
DR. JAMES HO, DC, BHSC

Ready to Roll

Expert advice on the dos and don'ts of foam rolling.

MOST OF US THAT WORK OUT regularly consider a little soreness after training a good thing. That stiffness the next day tells us we've worked hard, pushed our limits, and can expect muscle gains in return for our efforts. But there is a downside to delayed onset muscle soreness (DOMS) if not treated properly. Overtime, the repeated cycle of tearing and repairing that comes with the territory results in the thickening of the muscle fascia, which often leads to tightness and tension that stretching alone has little effect on. This common ailment among athletes and trainees has led to a rise in the use of foam rollers for relief. But are they really worth all the hype? The answer is, yes, but only when properly used.

Foam rolling, once a technique reserved mostly for elite and professional athletes, is a tool used to target overworked muscles through self, soft-tissue therapy (technically referred to as self-myofascial release). Incorporating foam rolling into your recovery plan can provide benefits similar to deep-tissue massage therapy, such as injury

prevention and improved performance through increased flexibility, decrease of muscle tension, and increased blood flow. Long-term benefits include improved posture and flexibility, as well as stress, tension and pain reduction, while increasing energy levels, and body awareness.

Like any do-it-yourself therapy, there are precautions to take with this technique:

- 1. Choose a foam roller with the right density.** If it's too soft, rolling will be relatively ineffective. Likewise, if it's too hard, you could risk bruising or cause greater tissue damage and inflammation.
- 2. Avoid rolling directly over the joint or bones** as this may lead to bone bruising and inflammation.
- 3. For those new to foam rolling, moderate amounts of pain can be expected.** Beginners should avoid rolling on consecutive days as the muscles will need time to adjust and build up a tolerance sensation.
- 4. Power athletes should avoid foam rolling too much** as they require an optimal and certain amount of muscle tone to perform their lifts and jumps.
- 5. Foam rolling can be done up to two times a day,** however should be avoided immediately pre-workout as this could lead to early fatigue and subsequent injury.

Roll on the foam roller in broad 3-5 inch spans to locate trigger points and knots. If there is a particular knot or trigger point that is tender, stop rolling and pause on that area briefly for 20 to 30 seconds, allowing the pressure to release the knot. The most effective period of time to foam roll is after a workout while your muscles are still warm, followed by a stretching session.

Safe Training,
Dr. James Ho



For more instruction on foam rolling visit strongfitnessmag.com

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A high-contrast, black and white photograph of a muscular woman in a gym setting. She is wearing a black baseball cap with 'STRONG FITNESS MAGAZINE' in red and white, and a black tank top with the same logo. She is lifting a silver dumbbell with her right arm, showing off her bicep and shoulder muscles. The background is dark and out of focus.

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